AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

COMPLIANCE ADVISORY

NOTICE OF IMPLEMENTATION OF THE AIRBORNE TOXIC CONTROL MEASURE FOR EMISSIONS OF TOXIC METALS FROM NON-FERROUS METAL MELTING OPERATIONS

The California Health and Safety Code requires the state Air Resources Board (ARB) to identify toxic air contaminants and subsequently adopt regulations to control their emissions. Cadmium (Cd), inorganic arsenic (As) and nickel (Ni) which may be emitted during melting of some metals and their alloys have been identified by ARB as toxic air contaminants. The law requires that the emissions of such toxic air contaminants be reduced to the lowest level achievable through the application of Best Available Control Technology (BACT) or any other equal or more effective control method.

In December 1992, ARB adopted an Airborne Toxic Control Measure (ATCM) which became effective January 1994, to regulate emissions of Cd, inorganic As and Ni from non-ferrous metal melting operations. The District is implementing and enforcing the ATCM without Air Pollution Control Board formal adoption, as allowed by state law and in accordance with procedures approved by the Board on July 25, 1995.

The ATCM for non-ferrous metal melting operations requires the control of emissions of toxic metals from melting and related operations involving aluminum, copper, lead, zinc, cadmium, arsenic and their alloys. Fumes evolving during the melting, pouring or other operations with these non-ferrous metals may contain inorganic arsenic, cadmium and nickel as small solid particles or aerosols (particulate matter).

Metal melting operations in San Diego County that may be subject to the ATCM would include wave solder/leveler machines, melting pots, foundry operations, metal recycling facilities, etc. A summary of the ATCM and its requirements is presented below.

Applicability The ATCM applies to new and existing operations that melt non-ferrous metals in a container, such as reverberatory, cupola, induction and direct arc furnaces, crucibles, sweat furnaces, refining kettles, etc.

Exemptions Certain facilities are exempt from the emission control requirements based on the quantities of metals being melted. These facilities must meet either of the following conditions:

melt a total of not more than one ton per year of all non-ferrous metals; or

melt not more than the quantities of the metals listed in Table 1.

Certain melting operations are also exempt from the emission control requirements based on the type and purity of metal being melted. These operations must melt clean aluminum scrap, metals or alloys (other than the metals listed in Table 1), containing not more than 0.002 wt.% As and 0.004 wt.% Cd, as determined using specified test methods.

The following aluminum melting devices are exempt from the requirement to install emission control equipment but are subject to the fugitive emission control requirements of Subsection (b)(3) of the ATCM:

> Furnaces used exclusively to process clean aluminum scrap (as defined in Subsection (a)(3) of the ATCM) or a mixture of clean aluminum scrap and aluminum ingot to produce extrusion billet;
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> Ladles, launders and other equipment used to pour molten aluminum into casting devices; and
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> The combustion chamber in a reverberatory furnace used solely to produce aluminum and aluminum-based alloys when the furnace is constructed with a charging well or similar device for adding feed to molten metal in a separate chamber.

To qualify for any of the above exemptions, facilities must submit to the District evidence of eligibility for a specific exemption. This would include information such as the amount, type and purity of all metals melted. The content of As, Cd and Ni in the metals melted by a facility must be determined by the applicable test methods specified in Section (f) of the ATCM. Facilities seeking an exemption will need to keep records as prescribed by Subsection (e)(2) of the ATCM .

EMISSION CONTROL REQUIREMENTS

All facilities subject to the process emission control requirements of Subsections (b)(1) and (b)(2) of the ATCM must do the following: (Note: References are to the ATCM adopted by ARB.)

Install an emission collection system designed and operated according to the requirements of the "Industrial Ventilation, Manual of Recommended Practices", 20th edition, 1988, ACGIH. (Reference: Subsections (a)(7) and (b)(1))

Demonstrate that good operating practices for the emission collection system are being followed and are in accordance with a maintenance plan approved by the District. The plan must include specified parameters, practices and methods of documenting compliance. (Reference: Subsection (b)(1)(B))

Install a particulate matter control device where the temperature of the entering exhaust stream is not more than 360°F (182°C) and which will reduce total particulate matter emissions by at least 99 percent. (Reference: Subsection (b)(2))

Implement fugitive emission control measures including specified methods for storage, handling, and transfer of controlled particulate matter that prevents discharge of visible emissions into the atmosphere. The visible emissions from any activity associated with a metal melting operation at a facility cannot exceed 10% opacity or Number 0.5 on the Ringlemann chart. (Reference: Subsection (b)(3))

Source Testing

Facilities subject to the emission control requirements of Subsections (b)(1) and (b)(2) must conduct an initial source test using ARB Test Method 5 to demonstrate the emission reduction efficiency of the particulate matter control device. Following the initial test, the District may require periodic tests to determine on-going compliance. (Reference: Subsection (b)(2))

Test Methods

All sampling and material testing must be conducted in accordance with the test methods specified in Section (f) of the ATCM.

Recordkeeping

Facilities subject to the emission collection and control requirements of Subsections (b)(1) and (b)(2) must maintain an inspection and maintenance log documenting compliance with the District approved maintenance plan. Additionally, records of all source testing of the particulate control device must be maintained by the facility.

Facilities eligible for exemptions pursuant to Section (c) of the ATCM must maintain records showing the amount and type of metal processed and/or the results of material testing, as applicable.

All records must be kept on site for two years and provided to the District upon request.

Alternative Compliance Option

An alternative plan to comply with the ATCM requirements can be used, provided it is approved in writing by the District prior to implementation.

COMPLIANCE SCHEDULE

An existing facility subject to the emission control requirements of Subsection (b)(1) and(b)(2) of the ATCM, must immediately submit an application for an Authority to Construct for the emission collection and control system.

An existing facility which may be exempt from the emission control requirements pursuant to Section (c), must submit to the District a letter and all necessary documentation substantiating the specific exemption claimed not later than **February 29, 1996.**

A new facility subject to the ATCM must comply with all applicable requirements of the ATCM upon initial installation and startup.

A copy of the ATCM adopted by the California Air Resources Board is included with this Advisory. If you have any questions concerning the requirements of the ATCM or its implementation, please contact Austen D'Lima at (619) 694-3317 or Gary Hartnett at (619) 495-5115.

TABLE 1

Exemption Limits from Emission Control Requirements for Non-Ferrous Metal Melting Operations

METAL MELTED	EXEMPTION LIMIT* tons/year
Pure Lead (≤ 0.001 wt.% Cd and 0.001 wt.% As)	400
Hard Lead (> 0.001 wt.% Cd or 0.001 wt.% As)	200
Aluminum Scrap	125
Aluminum Ingot containing more than 0.004 wt.% Cd or 0.002 wt.% As	125
Solder	100
Zinc Scrap	30
Copper or Copper Alloys (except scrap) containing more than 0.004 wt. % Cd or 0.002% wt. As	30
Type Metal (Lead for linotype machines)	25

* If a facility melts more than one type of the metals listed in the above table, then its eligibility for exemption must be determined by dividing the quantity of each metal melted by its corresponding exemption limit and totaling the resulting fractions. If this total does not exceed 1.0, the facility qualifies for the exemption.

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